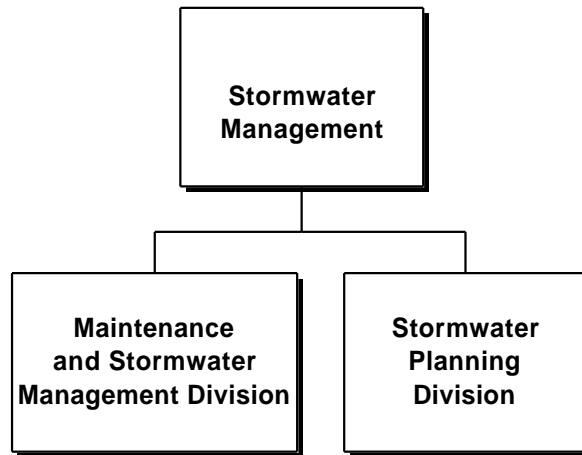


**DEPARTMENT OF PUBLIC WORKS  
AND ENVIRONMENTAL SERVICES  
STORMWATER MANAGEMENT**



# STORMWATER MANAGEMENT

## Agency Position Summary

122 Regular Positions / 122.0 Regular Staff Years

### Position Detail Information

#### MAINTENANCE AND STORMWATER MANAGEMENT DIVISION

##### ADMINISTRATION

1 Director  
1 Engineer IV  
1 Engineer II  
1 Management Analyst II  
1 Network/Telecom Analyst I  
1 Administrative Aide  
2 Clerical Specialists  
1 Account Clerk I  
1 Secretary II  
10 Positions  
10.0 Staff Years

##### CONTRACTING SERVICES

1 Engineer I  
1 Engineering Technician II  
2 Positions  
2.0 Staff Years

##### MAINTENANCE AND SERVICES

##### Field Operations

1 Engineer II  
4 Senior Maintenance Supervisors  
9 Labor Crew Chiefs  
8 Laborers III  
1 Laborer II  
9 Utility Workers  
8 Heavy Equipment Operators  
7 Motor Equipment Operators  
12 Truck Drivers  
4 Masons I  
63 Positions  
63.0 Staff Years

##### Maintenance Inspections

1 Engineer II  
1 Engineering Technician III  
1 Senior Maintenance Supervisor  
3 Engineering Technicians I  
6 Positions  
6.0 Staff Years

##### Engineering/Technical Support

1 Engineer III  
3 Engineers II  
2 Engineering Technicians III  
1 Engineering Technician II  
7 Positions  
7.0 Staff Years

##### Equipment/Specialty Trades

1 Vehicle Maintenance Coordinator  
1 Heavy Equipment Operator  
1 Motor Equipment Operator  
1 Carpenter I  
1 Equipment Repairer  
1 Welder II  
6 Positions  
6.0 Staff Years

##### SIGN SVS AND MATERIAL SUPPORT

1 Sign Shop Supervisor  
1 Warehouse Supervisor  
1 Warehouse Specialist  
2 Engineering Aides  
2 Motor Equipment Operators  
7 Positions  
7.0 Staff Years

#### STORMWATER PLANNING DIVISION

##### STORMWATER PLANNING

1 Director  
1 Engineer IV  
3 Engineers III  
3 Engineers II  
1 Engineering Technician III  
1 Engineering Technician I  
1 Secretary II  
11 Positions  
11.0 Staff Years

##### STORM DRAINAGE DESIGN

1 Engineer IV  
1 Engineer III  
8 Engineers II  
10 Positions  
10.0 Staff Years

# STORMWATER MANAGEMENT

## Agency Mission

To protect and enhance the quality of stormwater through the promotion of sound environmental policies, innovative use of resources, and renewed stewardship effort. To provide essential engineering design, project management, contracting, monitoring, and maintenance services for street name signs, projects to improve storm drainage, flood control, water quality, mass transit, commercial revitalization, roads, walkways, and other County infrastructure.

Agency Summary					
Category	FY 2000 Actual	FY 2001 Adopted Budget Plan	FY 2001 Revised Budget Plan	FY 2002 Advertised Budget Plan	FY 2002 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	100/ 100	121/ 121	122/ 122	121/ 121	122/ 122
Expenditures:					
Personnel Services	\$3,617,686	\$5,299,044	\$5,056,002	\$5,558,897	\$5,614,492
Operating Expenses	2,128,011	2,188,497	2,344,748	2,750,976	2,744,331
Capital Equipment	264,731	362,798	740,858	337,040	337,040
<b>Subtotal</b>	<b>\$6,010,428</b>	<b>\$7,850,339</b>	<b>\$8,141,608</b>	<b>\$8,646,913</b>	<b>\$8,695,863</b>
Less:					
Recovered Costs	(\$81,141)	(\$757,150)	(\$757,150)	(\$624,319)	(\$629,952)
<b>Total Expenditures</b>	<b>\$5,929,287</b>	<b>\$7,093,189</b>	<b>\$7,384,458</b>	<b>\$8,022,594</b>	<b>\$8,065,911</b>
Income:					
Street Sign Fabrication Fees	\$5,170	\$7,328	\$5,170	\$5,170	\$5,170
Miscellaneous Revenue	5,091	26,017	14,027	14,027	14,027
<b>Total Income</b>	<b>\$10,261</b>	<b>\$33,345</b>	<b>\$19,197</b>	<b>\$19,197</b>	<b>\$19,197</b>
<b>Net Cost to the County</b>	<b>\$5,919,026</b>	<b>\$7,059,844</b>	<b>\$7,365,261</b>	<b>\$8,003,397</b>	<b>\$8,046,714</b>

Cost Center Summary					
Category	FY 2000 Actual	FY 2001 Adopted Budget Plan	FY 2001 Revised Budget Plan	FY 2002 Advertised Budget Plan	FY 2002 Adopted Budget Plan
Stormwater Management Division	\$5,929,287	\$6,465,124	\$6,759,134	\$7,096,012	\$7,132,948
Stormwater Planning Division	0	628,065	625,324	926,582	932,963
<b>Total Expenditures</b>	<b>\$5,929,287</b>	<b>\$7,093,189</b>	<b>\$7,384,458</b>	<b>\$8,022,594</b>	<b>\$8,065,911</b>

## Board of Supervisors' Adjustments

*The following funding adjustments reflect all changes to the FY 2002 Advertised Budget Plan, as approved by the Board of Supervisors on April 30, 2001:*

- The 1.0 percent cost-of-living adjustment approved by the Board of Supervisors, and previously held in reserve, has been spread to County agencies and funds. This action results in an increase of \$49,962 to Stormwater Management. This amount consists of an increase of \$55,595 in Personnel Services and \$5,633 in Recovered Costs.
- A net decrease of \$6,645 as part of the \$15.8 million Reductions to County Agencies and Funds approved by the Board of Supervisors. This reduction includes a decrease of \$6,645 in professional development training.

# STORMWATER MANAGEMENT

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*The following funding adjustments all approved changes to the FY 2001 Revised Budget Plan from January 1, 2001 through April 23, 2001. Included are all adjustments made as part of the FY 2001 Third Quarter Review:*

- Net savings of \$133,634 primarily in Personnel Services are associated with the Close Management Initiatives program. These savings are now available for reinvestment in other County initiatives.
- The County Executive approved a redirection of positions, resulting in an increase of 1/1.0 SYE position for this agency. The position was transferred from the Department of Public Works and Environmental Services, Business Planning and Support.

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## ***County Executive Proposed FY 2002 Advertised Budget Plan***

### **Purpose**

This agency develops and promotes strategies for stormwater management that preserve and improve the natural ecosystem. Both the Maintenance and Stormwater Management Division and the Stormwater Planning Division will support these activities. Key functions include the continued identification of infrastructure inventory and performance of critical maintenance; the development and implementation of stormwater master plans; and the establishment of design and maintenance criteria for County and developer projects that emphasize improving the quality of life regarding design, construction, and maintenance standards and practices for stormwater facilities.

The Stormwater Planning Division will track new and pending legislation; promote innovative designs; initiate stormwater standards, practices, and policies; and facilitate the overall stormwater strategic direction of Fairfax County. In addition, this division will conduct public outreach and education through coordination of seminars, workshops, and training; and collaborate with citizens, state and regional authorities, and other County agencies on stormwater issues.

The Maintenance and Stormwater Management Division will continue to maintain the County's storm drainage network and stormwater management facilities and perform project evaluations and scoping for storm drainage capital projects. Beginning in FY 2001, the division became the initial contact for citizen/customer drainage complaints previously handled by the Planning and Design Division. The division will also continue to maintain County and School walkways, trails and pedestrian bridges, roads included in the Fairfax County Road Maintenance and Improvement Program, public street name signs, commuter rail and park-and-ride facilities, in addition to managing the maintenance requirements of the Commercial Revitalization Program. The division maintains access to County facilities during snow and flooding emergencies, with essential facilities given priority, and assists the Fire and Rescue Department with heavy equipment as requested. The division also provides services to other agencies that support their missions, as well as provides administrative and engineering support for an array of other programs and services.

### **Key Accomplishments**

- ◆ Established a Peer Review Quality Assurance/Quality Control Training Program for plan review and construction inspection to provide feedback that ensures protection of both County and private resources.
- ◆ Completed a five-year program to inspect, evaluate, and correct deficiencies in the County's storm sewer network.

# STORMWATER MANAGEMENT

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- ◆ Completed the initial stream protection field sampling of over 130 sites for benthic, fish, and habitat assessment and registered their locations in the Geographic Information System (GIS) using Global Positioning System technology.
- ◆ Handled a 10 percent increase in citizen maintenance requests during FY 2000. Of the total number of requests received, 89 percent were responded to within 1 business day, exceeding the target by 9 percent. Additionally, 95 percent were closed within 5 business days, exceeding the target by 15 percent.
- ◆ Handled an increase of 1.8 percent in citizen maintenance requests relating to public street name signs during FY 2000. The total number of requests per 1,000 signs remained unchanged at 20 requests per 1,000 signs. However, the average response time to complete the required work was reduced 30.4 percent, from 5.6 to 3.9 days.

## FY 2002 Initiatives

- ◆ To develop, monitor, and adjust strategic initiatives to meet the changing environment.
- ◆ To develop an outreach program and implement infill development recommendations, an infrastructure replacement program, and stormwater management retrofits.
- ◆ To establish a program to increase the pollutant and debris removal efficiencies of substandard stormwater management facilities through rehabilitation and retrofit.
- ◆ To expand the Peer Review Quality Assurance/Quality Control Training Program to include additional County agencies to further enhance responsiveness to citizens and general maintenance practices.
- ◆ To develop integrated watershed and site analysis tools and capabilities through the use of GIS technology and watershed models.
- ◆ To increase engineering design and project management services to County property owners in the area of flood control in order to mitigate property damage and stream bank erosion.

## Performance Measurement Results

During FY 2000, 416 miles or 102 percent of public sidewalks and school walkways were inspected, far exceeding the agency objective of 39 percent. Through these inspections, the agency was able to identify in advance those maintenance areas that meet rehabilitation and/or infrastructure replacement criteria.

By combining the contracted mowing program of stormwater management ponds with cyclical pond inspections, 100 percent of these facilities were inspected, again far exceeding the agency objective of 25 percent. The mowing of these ponds is performed annually by an outside vendor. Upon completion of mowing, a compliance inspection is performed by the agency to ensure satisfactory performance prior to payment. Because the grass height is lowered, identification of maintenance requirements can easily be made; therefore, a maintenance inspection is performed at the same time, eliminating duplicative efforts.

The agency also inspected 100 percent of 34,186 street name signs, while reducing the average number of days to repair a sign by 30 percent. This was accomplished by supplying the trucks used with the necessary materials and tools to enable staff to perform immediate repairs of signs while in the field.

## Funding Adjustments

*The following funding adjustments from the FY2001 Revised Budget Plan are necessary to support the FY2002 program:*

- ◆ An increase of \$175,671 in Personnel Services associated with salary adjustments necessary to support the County's compensation program.

# STORMWATER MANAGEMENT

- ◆ An increase of \$84,182 in Personnel Services for Limited Term salaries to support full-year funding for the Stream Protection Strategy program.
- ◆ An increase of \$495,636 in Operating Expenses primarily due to an increase of \$154,458 in Department of Vehicle Services charges based on anticipated fuel costs; \$117,599 to support additional contracted maintenance for walkways/trails and storm drainage facilities; \$144,043 for services performed by other agencies and billed to Stormwater Management, primarily for snow removal, trail inspections, and drafting support; and \$67,357 for other operating expenses including federally mandated certification training, uniforms, snow removal supplies, and maintenance equipment.
- ◆ A decrease of \$132,831 in Recovered Costs primarily due to the Stream Protection Strategy and National Pollutant Discharge Elimination System programs no longer being budgeted in Fund 308, Public Works Construction.
- ◆ Funding of \$337,040 is recommended for Capital Equipment. Of this total, \$280,714 is recommended for replacement equipment that is worn and beyond its useful life. This equipment includes a tandem dump truck to transport materials and equipment to and from job sites; a 4x4 backhoe to load, dig, and backfill materials on easements, trails, stormwater management ponds and dam sites; a roller to fill material and asphalt; and several other critical items. Funding of \$56,326 will fund additional equipment, including a dump truck, a 6-ton equipment trailer to transport mid-weight maintenance equipment, and a breaker attachment to serve as a hydraulic hammer to break up concrete, asphalt, and large rocks. These items will increase the number of crews available to maintain walkways, trails, dam sites, and storm drainage facilities and will increase the productivity and safety of those crews.

*The following funding adjustments reflect all approved changes to the FY 2001 Revised Budget Plan since passage of the FY 2001 Adopted Budget Plan. Included are all adjustments made as part of the FY 2000 Carryover Review and all other approved changes through December 31, 2000:*

- ◆ As part of the FY 2000 Carryover Review, an increase of \$424,903 due to encumbered carryover.



## Maintenance and Stormwater Management Division

### Goal

To maintain the County's storm drainage systems, stormwater management facilities, walkways/trails, commuter rail and park-and-ride facilities, and public street name signs, in addition to providing snow removal for essential County facilities, responding to health and safety directives, and providing support for other public safety emergencies as requested.

Cost Center Summary					
Category	FY 2000 Actual*	FY 2001 Adopted Budget Plan	FY 2001 Revised Budget Plan	FY 2002 Advertised Budget Plan	FY 2002 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	100/ 100	101/ 101	101/ 101	101/ 101	101/ 101
<b>Total Expenditures</b>	<b>\$5,929,287</b>	<b>\$6,465,124</b>	<b>\$6,759,134</b>	<b>\$7,096,012</b>	<b>\$7,132,948</b>

\* FY 2000 actuals include several cost centers which have been consolidated as part of the FY 2001 Department of Public Works and Environmental Services reorganization.

# STORMWATER MANAGEMENT



## Stormwater Planning Division

### Goal

To develop and implement the planning and design of stormwater systems to promote, preserve, and improve the natural ecosystems in order to enhance the quality of life within the community.

Cost Center Summary					
Category	FY 2000 Actual	FY 2001 Adopted Budget Plan	FY 2001 Revised Budget Plan	FY 2002 Advertised Budget Plan	FY 2002 Adopted Budget Plan
Authorized Positions/Staff Years					
Regular	0/ 0	20/ 20	21/ 21	20/ 20	21/ 21
<b>Total Expenditure</b>	<b>\$0</b>	<b>\$628,065</b>	<b>\$625,324</b>	<b>\$926,582</b>	<b>\$932,963</b>

### Objectives

- ◆ To inspect at least 20 percent of the County's storm drainage system and 100 percent of the stormwater management facilities in order to mitigate flooding and protect property by identifying and correcting deficiencies otherwise reported by citizens, with a reduction of maintenance requests from 73 to 70 per 100 miles of storm drainage system and 9 per 100 stormwater management facilities.
- ◆ To inspect and maintain at least 40 percent of the County's walkways and trails in order to ensure safe usage by the general public by identifying and correcting deficiencies otherwise reported by citizens, and reducing requests from 8 to 7 per 100 miles of walkways and trails.
- ◆ To inspect 75 percent of all public street name signs and either repair or replace damaged or missing signs within 3.9 days of identification or citizen notification.
- ◆ To increase the completion of improvement designs on schedule and within budget by 10 percentage points, from 60 percent to 70 percent, toward a future target of 80 percent.
- ◆ To inspect and sample at least 120 stormwater outfalls annually in order to prepare an annual report that has no major comments and is required for the Municipal Separate Storm Sewer System Permit (MS4) issued by Virginia Department of Environmental Quality (DEQ).
- ◆ To review and process at least 75 percent of waiver requests and rezoning applications within established deadlines in order to implement the Stormwater Control Plan.

# STORMWATER MANAGEMENT

## Performance Indicators

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1998 Actual	FY 1999 Actual	FY 2000 Estimate/Actual	FY 2001	FY 2002
<b>Output:</b>					
Inventory:					
Storm drainage system (miles) <sup>1</sup>	4,500	2,200	2,203 / 756	2,206	912
Stormwater management facilities <sup>2</sup>	887	2,713	2,773 / 941	2,833	979
Walkways/trails (miles)	307	375	390 / 408	405	538
Public street name signs	33,606	33,936	34,336 / 34,186	34,736	34,686
Inspected:					
Storm drainage system (miles) <sup>1</sup>	297	650	551 / 87	167	182
Stormwater management facilities <sup>2</sup>	509	1,260	1,296 / 941	960	979
Walkways/trails (miles)	119	128	152 / 416	189	215
Public street name signs	32,500	29,088	39,431 / 34,186	25,827	26,015
Improvement designs completed	8	17	26 / 12	15	18
SWM outfalls inspected and sampled	104	121	100 / 141	120	120
Waiver requests and rezoning applications processed	379	470	380 / 288	380	380
<b>Efficiency:</b>					
Maintenance cost per:					
Storm drainage system (miles)	\$286	\$558	\$612 / \$1,993	\$1,917	\$1,772
Stormwater management facilities	\$1,163	\$1,168	\$1,035 / \$994	\$1,026	\$1,013
Walkways/trails (miles)	\$741	\$547	\$463 / \$766	\$678	\$741
Public street name signs	\$9	\$10	\$11 / \$12	\$11	\$12
Design cost as a percent of TPE	NA	NA	NA / 11%	10%	10%
Cost per SWM outfall inspected and sampled	\$137	\$153	\$190 / \$126	\$154	\$163
Cost per waiver request and rezoning application processed	\$514	\$388	\$515 / \$393	\$389	\$411
<b>Service Quality:</b>					
Percent inspected:					
Storm drainage system (100 miles)	6.6%	29.6%	25.0% / 11.5%	7.6%	20.0%
Stormwater management (100 facilities)	57.4%	46.4%	46.7% / 100.0%	33.9%	100.0%
Walkways/trails (100 miles)	38.8%	34.1%	39.0% / 102.0%	46.7%	40.0%
Percent of street signs inspected	96.7%	85.7%	114.8% / 100.0%	74.4%	75.0%
Percent of improvement designs completed on time and within budget	38%	62%	64% / 50%	60%	70%
Percent of SWM outfalls inspected and sampled requiring correction or resolution	NA	NA	NA / NA	10%	10%



# STORMWATER MANAGEMENT

Indicator	Prior Year Actuals			Current Estimate	Future Estimate
	FY 1998 Actual	FY 1999 Actual	FY 2000 Estimate/Actual	FY 2001	FY 2002
<b>Outcome:</b>					
Citizen maintenance requests per:					
Storm drainage (100 miles)	12	24	16 / 75	73	70
Stormwater management (100 facilities)	9	9	6 / 10	9	9
Walkways/trails (100 miles)	14	11	9 / 10	8	7
Average response time to repair signs (days)	6.9	5.6	7.0 / 3.9	3.9	3.9
Percentage point change in improvement designs completed on time and within budget	NA	24	2 / (8)	10	10
Maintain zero DEQ major comments regarding the MS4 Annual Report	Yes	Yes	Yes / Yes	Yes	Yes
Percent of rezoning applications and waiver requests processed within established deadlines	NA	NA	NA / NA	75%	75%

<sup>1</sup> Beginning in FY 2000, mileage is based on actual surveys and land records, and inspections are performed by staff only. Prior years' inspections included citizen inspections as submitted through maintenance requests.

<sup>2</sup> FY 2000 actual inventory and inspections reflects only County-maintained facilities. Prior years' amounts included private facilities.